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EXAMINER

RICHARDS, N DREW

ART UNIT

PAPER NUMBER

2815

DATE MAILED: 08/04/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/924,761

Applicant(s)

PARK ET AL.

Examiner

N. Drew Richards

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on 07 May 2003.

2a) ☐ This action is FINAL.

2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) 1-21 is/are pending in the application.

4a) Of the above claim(s) 15-21 is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) 1-14 is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☒ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on 09 August 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) ☒ All b) ☐ Some * c) ☐ None of:

1. ☒ Certified copies of the priority documents have been received.

2. ☐ Certified copies of the priority documents have been received in Application No. _____.

3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.

4) ☐ Interview Summary (PTO-413) Paper No(s). _____.

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other:

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of claims 1-14 in Paper No. 5 is acknowledged. The traversal is on the ground(s) that a search for any one group of claims would encompass a search for the subject matter of the remaining claims and thus there is no serious burden on the examiner. This is not found persuasive because as shown in the restriction, the different groups are classified in different subclasses. Thus, different subclasses need to be searched for each group. Also, the subject matter is different for the different groups and thus a search for one group does not entail searching for the specific limitations of the other groups. Thus, the search and examination of all groups would entail an undue burden on the examiner.

The requirement is still deemed proper and is therefore made FINAL.

2. Claims 15-21 withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to nonelected inventions, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in Paper No. 5.

Priority

3. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Specification

4. The disclosure is objected to because of the following informalities: Page 8 line 15 recites "light guiding part 11" where it should read "light **source** part 11."

Appropriate correction is required.

Claim Objections

5. Claim 2 is objected to because of the following informalities: Line 1-2 recites "said light part source" where it should read "said light source part," line 3 recites "a light beam" where it should read "said light beam." Appropriate correction is required.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claim 5 recites the limitation "the first light source plate" in line 3. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

9. Claims 1, 2 and 4-9 are rejected under 35 U.S.C. 102(b) as being anticipated by Sawayama (U.S. Patent No. 6,048,071).

Sawayama discloses a reflection type liquid crystal display in figures 1-27 and on columns 1-32. Specifically, Sawayama discloses in, for example, figure 1:

a light source part 20 for generating a light beam;

a light guiding part 24 established at one side of the light source part 20 for guiding the light beam generated from the light source uniformly;

and an LCD panel part 10 disposed below the light guiding part 24 for forming an image.

With regard to claim 2, Sawayama further disclose the light source part 20 comprising:

a light source 26 for generating the light beam;

and a first light guiding plate 81,82 disposed at one side of the light source 26 for inducing the light beam generated from the light source toward the light guiding part 24.

With regard to claim 4, the first light guiding plate 81,82 comprises a first pattern part 82 for allowing the light beam generated from the light source 26 to be uniformly incident onto the light guiding part 24.

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With regard to claim 5, the first pattern part 82 is formed at a corresponding face fo the first light guiding plate 81,82 corresponding to an adjacent face of the light guiding part 24.

With regard to claim 6, the first pattern part 82 comprises a plurality of groove patterns.

With regard to claim 7, the groove pattern is a triangle in its sectional shape.

With regard to claim 8, the groove pattern comprises a vertex whose acute angle is approximately 90 degrees. Sawayama disclose the angle being 100 degrees which is considered approximately 90 degrees.

With regard to claim 9, the light guiding part 24 comprises a second light guiding plate 24 for inducing the light beam generated from the light source part 20 toward the LCD panel part 10.

10. Claims 1-3 and 9-13 are rejected under 35 U.S.C. 102(e) as being anticipated by Masuda et al. (U.S. Patent No. 6340999 B1).

Masuda et al. disclose a reflection type liquid crystal display in figures 1-17 and on columns 1-18. Specifically, Masuda et al. disclose in, for example, figure 1:

- a light source part 2 for generating a light beam;

- a light guiding part 3 established at one side of the light source part 2 for guiding the light beam generated from the light source uniformly;

- and an LCD panel part 5 disposed below the light guiding part 24 for forming an image.

With regard to claim 2, Sawayama further disclose the light source part 2 comprising:

a light source 2 for generating the light beam;

and a first light guiding plate 3a disposed at one side of the light source 2 for inducing the light beam generated from the light source toward the light guiding part 3.

With regard to claim 3, the light source is disclosed as being an LED on column 13 lines 37-40.

With regard to claim 9, the light guiding part 3 comprises a second light guiding plate 3 for inducing the light beam generated from the light source part 2 toward the LCD panel part 5.

With regard to claim 10, the light guiding part 3 comprises a second pattern part 3f that reflects a part of the light beam input from the light source part 2 toward the LCD panel 5 and transmits a part of the light beam reflected from the LCD panel 5.

With regard to claim 11, the second pattern part 3f is formed at a selected portion of the second light guiding plate 3 which is opposite to a face of the second light guiding plate 3 adjacent to the LCD panel part 5.

With regard to claim 12, the second pattern part comprises a pattern that is inclined by an angle of 20 degrees to 30 degrees along the light guiding part 3 direction with respect to an axis of a contact face between the light source part 2 and the light guiding part 3. This is seen in figure 2 and the angle disclosed on column 11 line 10.

With regard to claim 13, the second pattern part 3f comprises a plurality of prism-shaped patterns arranged in parallel along a selected direction, each of the plurality of the prism-shaped patterns having a transparent face disposed adjacent to the light source part for transmitting the light beams which are reflected from the LCD panel part and a reflective face corresponding to the transparent face for reflecting toward the LCD panel part the light beams which are incident from the light source part.

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Masuda et al. (U.S. Patent No. 6340999 B1).

Masuda et al. teach all the limitations of claim 13 from which claim 14 depends. Masuda et al. do not explicitly teach the added limitation of the angles formed by the second pattern part being 3-3.5 degrees and 33-34 degrees. However, these angles are considered obvious to one of ordinary skill in the art. One of ordinary skill in the art at the time of the invention would have adjusted the reflection angles to suit their specific needs and to compensate for different angles of incident light to try and achieve the best reflection and thus the brightest picture.

These claims are prima facie obvious without showing that the claimed ranges achieve unexpected results relative to the prior art range. In re Woodruff, 16 USPQ2d 1935, 1937 (Fed. Cir. 1990). See also In re Huang, 40 USPQ2d 1685, 1688 (Fed. Cir. 1996) (claimed ranges of a result effective variable, which do not overlap the prior art ranges, are unpatentable unless they produce a new and unexpected result which is different in kind and not merely in degree from the results of the prior art). See also In re Boesch, 205 USPQ 215 (CCPA) (discovery of optimum value of result effective variable in known process is ordinarily within skill of art) and In re Aller, 105 USPQ 233 (CCPA 1955) (selection of optimum ranges within prior art general conditions is obvious).

Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Watanabe (U.S. Patent No. 6104453), Yamazaki (U.S. Patent No. 6407485 B1), Yano et al. (U.S. Patent No. 6507378 B1), Tai et al. (U.S. Patent No. 5926601), Higuchi et al. (U.S. Patent No. 5966192), Ma (U.S. Patent No. 6352350 B1), Egawa et al. (U.S. Patent No. 6295104 B1), Nakabayashi et al. (U.S. 2001/0019479 A1).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to N. Drew Richards whose telephone number is (703)

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306-5946. The examiner can normally be reached on M-F 8:00-5:30; Every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie Lee can be reached on (703) 308-1690. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



NDR

July 27, 2003



EDDIE LEE
SUPERVISORY PATENT EXAMINER
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